No.



200000078

THE UNIVERD STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrob Seed Company TIC

THE COUNTY THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE CHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR RING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE SURPOSE; OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PAYMENT PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'A5404'

In Testimony Therest. I have hereunto set my hand and caused the seal of the Plant Pariety Protection Office to be affixed at the City of Washington, D.C. this twenty-fourth day of April, in the year of our Lord two thousand one.

alank Post

Acting Commissioner Plant Variety Protection Office Agricultural Marketing Service

griculturo

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following state ments are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Heduction Act (PRA) of 1995

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

Application is required in order to determine it a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

(matricular and micrimation collection purgen sta	emeni on reverse)				
1 NAME OF OWNER	All the second	e de la companya del companya de la companya del companya de la co	2 TEMPORARY DESIGNATION OR EXPERIMENTAL NAME	3 VARIETY NAME	
Asgrow Seed Company LLC			MP5404	A5404	
4 ADDRESS (Street and No. or R F D. No., City, State, and ZIP Code, and Country)			5 TELEPHONE (include area code)	FOR OFFICIAL USE ONLY	
634 East Lincoln Way			515-232-7170	PVPO NUMBER	
Ames IA 50010				2000000	
	e e e e e e e e e e e e e e e e e e e		6 FAX (include area code)	Lagrandi	
			515-956-6905	FILING DATE	
7 IF THE CHARLED WANTED IS NOT A TERROR OF THE TOP OF				FILING DATE	
7 IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)	8 IF INCORPORAT STATE OF INCO	D. GIVE 9 DATE OF INCORPORATION PORATION		Dec. 9, 1999	
Corporation	Delaware	e	March 22, 1968	8.00	
10 NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SER	VE IN THIS APPLICATION (First	Derson bsted will re	<u> </u>	FILING AND EXAMINATION	
1 mars		Delabit Pared Will IC	cove an papersy	FEES:	
Donald Steffen			Market Control of the	[· 2450.00	
Asgrow Seed Company LLC			Description of the second	\$ 12/2/200	
634 East Lincoln Way Ames IA 50010	A TOUR AND THE SEASON OF T			R DATE 1 1/7/1999	
Ames IA 50010				E CERTIFICATION FEE:	
				18:320	
				4-6-01	
11 TELEPHONE (Include area code) 12 FAX (Include area code)	ode) 13 E_M	IAN	· on	On the last of the	
515–956–3002 515–956–6			en@monsanto.com	OP KIND (Common Name) Soybean	
			Circinolisanto.com	30y bean	
15 GENUS AND SPECIES NAME OF CROP	16. FAX	WILY NAME (Botani		THE VARIETY A FIRST GENERATION	
				BRID? □ YES ☑ NO	
10 CUCCY ADDRODUATE DOV FOR FACILIAND		1			
18 CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTE (1996/32)	D (Follow instructions on	19. DOES THE CERTIFIED	OWNER SPECIFY THAT SEED OF THIS I SEED? See Section 83(a) of the Plant	/ARIETY BE SOLD AS A CLASS OF Variety Protection Act)	
a. X Exhibit A. Origin and Breeding History of the Variety b X Exhibit B. Statement of Distinctness	Anna Santa		YES (If "yes", answer items 20 and 21 below)	NO (If "no," go to item 22)	
b	And the second of the second o	20 DOES THE	OWNER SPECIFY THAT SEED OF THIS	MONTH OF A BUTTON AC TO AN HOUSE	
d. Exhibit D. Additional Description of the Variety (Optional)		OF GENER	AIIONS7	ANGELA BE EMILED W2 LO MOMBEK	
e. X Exhibit E. Statement of the Basis of the Owner's Ownersh			YES	□ NO	
Voucher Sample (2,500 viable unireated seeds or, for tube verification that lissue culture will be deposited and maintal (eoostory).	f propagated varieties, med in an approved public	21 IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?			
g. (F) Filing and Examination Fee (\$2,450), made payable to To	easurer of the United		FOUNDATION REGISTERED	CERTIFIED	
States (will to the Plant Vanety Protection Office)			Alaman (1997) and the second of the second o		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OF FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRE OTHER COUNTRIES?	RAHYBRID PRODUCED D, OR USED IN THE U.S. OR	23. IS THE VAR PROPERTY	RIETY OR ANY COMPONENT OF THE VA RIGHT (PLANT BREEDER'S RIGHT OR	RIETY PROTECTED BY INTELLECTUAL PATENT)?	
☐ YES 🛣 NO			YES	₩ ио	
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPO FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use	SITION, TRANSFER, OR USE space indicated on reverse.)	IF YES, PLE REFERENC	ASE GIVE COUNTRY, DATE OF FILING (E NUMBER. (Please use space indicated	OR ISSUANCE AND ASSIGNED	
24 The owners declare that a viable sample of basic seed of the variety for a tuber propagated variety a lissue quality will be denoughed in a	will be furnished with application	and will be replenes	hed upon request in accordance with such	requiations as may be applicable, or	
The understand connects inform the course of this passable manufactured and the course of the course of this passable manufactured and the course of th					
and is entitled to protection under the provisions of Section 42 of the Owner(s) is (are) informed that false representation herein can jeopar	was among a software to the	4.		a state as to you do st outlier 12,	
SIGNATURE OF OWNER	one present and result in period	T .			
Lis Stiff		SIGNATURE O	F OWNER		
NAME (Please print or type)					
Donald Steffen		The state of	uuu u typey		
CAPACITY OR TITLE DATE CAPACITY OR TITLE				DATE	
Regulatory Affairs Mgr. 10/15/1999				And the second of the second o	
58.T-470 (6-96) designed by the Plant Vanety Protection Office with WordPerfect 6.0a Replaces STD-470 (03-96) which is obsolete (See reverse for instructions and information collection burden statement					

1992

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF A5404

- Parentage: A5885*XR5101
- 1992-3 F1 & F2 generations were grown near Isabela, Puerto Rico. Both were advanced using modified pedigree selection.
- 1993 F3 Bulk Populations were grown in Marion, Arkansas and single plants pulled.

Cross CP1611 was made in Isabela, Puerto Rico.

- 1993-4 F3 derived F4 plants were grown in Marion, Arkansas in progeny rows, and row CP91611 M93-13211 was selected based on agronomic characteristics.
- 1994 F3:5 CP91611 M93-13211 was entered in a yield test at 4 locations in the lower Midwest, where it placed 2nd of 50 entries.
- 1995 F3:6 CP91611 M93-13211 was entered in a yield test at 8 locations in the lower Midwest, where it placed 7th of 50 entries.
- 1996 F3:6 CP91611 M93-13211 was entered in a yield test at 9 locations in the lower Midwest, where it placed 4th of 26 entries.

A5404 is uniform and stable within commercially acceptable limits based on trial observations since 1996. As with any other soybean variety, variants can occur for almost any characteristic during the course of repeated sexual reproduction.

EXHIBIT B

Novelty Statement Concerning A5404 Soybean

To our knowledge, the soybean varieties that closely resemble A5404 are A4604, AG4702, AG5602:

A5404	- Purple
A4604	- Purple
AG4702	- Purple
AG5602	- White
A5404	- Absent
A4604	- Absent
AG4702	- Present
AG5602	- Present
A5404	- Gray
A4604	- Tawny
	- Tawny
AG5602	- Gray
A5404	- Resistant
A4604	- Resistant
	- Susceptible
	- Susceptible
	A4604 AG4702 AG5602 A5404 A4604 AG4702 AG5602 A5404 A4604 AG4702 AG5602

REPRODUCE LOCALLY. Include form number and date on all reproductions

20000007

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is extimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Venter at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C (Soybean

OBJECTIVE DESCRIPTION OF VARIETY SOYBEAN (Glycine max (L.) Merr.)

· · · · · · · · · · · · · · · · · · ·						
NAME OF A	PPLICANT(S)				FOR OFFICIAL USE ONLY	
Asgrow Seed Company LLC				PVPO NUMBER		
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code)				VARIETY NAME		
				A5404		
Į.	Lincoln Way	7			TEMPORARY DESIGNATION	
Ames L	A 50010				MP5404	
a zero in the fir minimum of 1 standard may	st box (e.g. \square \square 00 plants. Compa be used to determ	\Box or $\Box\Box$) when a rative data should be use plant colors;	number is either 99 o	r less 9 or less respe vrieties entered in the ed:	cribes the varietal character of this variety in the boxes below. Place crively. Data for quantitative plant characters should be based on the same trial. Royal Horticultural Society or any recognized color optication.	
A. MORP	HOLOGY					
Seed Shape	•					
2		Spherical		2 = Spherical Flattened		
	(L/W, L/T, and T/W ratios - <1.2)		ratios - <1.2)	(L/W ratio >1.2; L/T ratio = <1.2)		
	3 = Elongate (L/T ratio > 1.2; T/W = <1.2)			4 = Elongate-Flattened (L/T ratio >1.2; T/W >1.2)		
Seed Coat (•	1 18tito > 1.2; 1/W	=<1.2)	(L/1 ratio >	1.2; 1/W >1.2)	
	1= Yellow	2= Green	3= Brown	4= Black	5= Other	
1	1 1000	# GICCH	5 Diown	7— DIACK	(Please Specify)	
Seed Coat I	auster:	*			(Tause Speegy	
1	1= Dull	2= Shiny				
Seed Size:						
1 5	grams/100 s	seeds				
Hilum Color	** •					
5	1= Buff	2= Yellow	3= Brown	4= Gray	5= Imperfect Black	
	6= Black	7= Other (Pl	ease Specify)			
Cotyledon C	olor:					
1	1 = Yellow	2 = Green				

Seed Protein Peroxidase Activity: $1 = L_{0W}$ 2 = High**Hypocotyl Color:** 1 = Green 2 = Green with Bronze 3 = Light Purple 3 4 = Dark Purple extending to Evans' or 'Davis' Bands below Cotyledon below Cotyledons unifoliate leaves (Hodgson', Woodworth'or'Tracy' 'Beeson'or'Pickett71' 'Coker',or'Hampton266A') Leaf Shape: 3 1 = Lanceolate 2 = Oval3 = Ovate4 = Other (Please Specify) Flower Color: 2 1 = White2 = Purple 3 = White with a Purple Throat Pod Color: 2 1 = Tan2 = Brown3 = Black **Pubescence Color:** 1 1 = Gray2 = Brown (Tawny)3 = Light Tawny Plant Habit: 1= Determinate 2= Semi-Determinate 3= Indeterminate 1 4 = Intermediate **B. DISEASE REACTIONS** 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant **Bacterial** Bacterial Pustule (Xanthomonas campestris pv. glycines (Nakano) Dye) 0 Bacterial Blight (Pseudomonas syringae pv. glycinea (Coerper) Young, Dye &Wilkie) Wildfire Blight (Pseudomonas syringae pv. tabaci (Wolf & Foster) Young, Dye &Wilkie) Fungal Brown Spot (Septoria glycines Hemmi) Frogeye Leafspot (Cercospora sojina) race 1 race 2 0 race 3 race 4 race 5 race 6 Other (*Please Specify*)

S&T-470-2 (2-99) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces LPGS-470-2 (6-83) which is obsolete.

Downy Mildew (Peronospora trifoliorum var. manshurica (Naum.) Syd. Ex Gaum)

Target Spot (Corynespora cassiicola (Berk. & Curt.) Wei)

В.	DISEASE REAC	TIONS (Continued) (0 = Not Tested 1 = Susceptible 2	= Resistant 3 =	= Tolerant		
0	Powdery	Mildew (Microsphaera dif	fusa Cke. & Pk.)		00000078		
0	Brown S	tem Rot (<i>Phialophora grego</i>	ata (Allington & Chamberlain) W.	Gams.)			
0	Stem Car	nker (<i>Diaporthe phaseoloru</i>	ım (Cke. & Ell.)Sacc. var. caulivora	Athow & Caldwo	ell)		
0	Pod and	Stem Blight (Diaporthe pha	seolorum (Cke. & Ell.)Sacc. var. so	ojae (Lehman) We	chm.)		
0	Purple Se	ed Stain (<i>Cercospora kikud</i>	chii (T. Matsu. & Tomoyasu) Gardo	ener)			
0	Rhizoctor	nia Root rot (<i>Rhizoctonia se</i>	olani Kuhn)				
Phyt	ophthora Rot (<i>Phyto</i>	ophthora megasperma Drec	hs. f. sp. <i>glycinea</i> (Kuan & Erwin))				
1	race 1	1 race 8	1 race 15	1	race 22		
1	race 2	1 race 9	1 race 16	1	race 23		
1	race 3	1 race 10	1 race 17	1	race 24		
1	race 4	1 race 11	1 race 18	1	race 25		
1	race 5	1 race 12	1 race 19	0	race 26		
1	race 6	1 race 13	1 race 20	0	race 27		
1	race 7	1 race 14	1 race 21		Other (<i>Please</i> Specify)		
0	Bud Blight	t (Tobacco Ringspot Virus)		opecy,		
0							
0							
0	Pod Mottle (Bean Pod Mottle Virus)						
0	O Seed Mottle (Soybean Mosaic Virus)						
Nema	tode						
Soybea	an Cyst Nematode (Heterodera glycines Ichino	he)				
0	race 1	2 race 3	0 race 6	2	race 14 (former r. 4)		
0	race 2	0 race 5	0 race 9		Other (<i>Please</i>		
0	Lance Nem	atode (Hoplolaimus colom	bus Sher)		Specify)		
0							
0							
			- /				

B. DIS	BEASE REACTIONS Continued		1 = Susceptible		3 = Tolerant	1 A A =
	Peanut Root Knot Nematode (•	20000	1007
0	Reniform Nematode (Rotylenc	<i>hulus reniformis</i> Lii	awood & Olivera)	•		
0	Javanese Nematode (Meloidog	<i>yne javanica (</i> Treud	l) Chitwood)			
	Other Nematode (Please Specif	ý)				
C. PHYS	SIOLOGICAL RESPONSES	0 = Not Tested	1 = Susceptible	2 = Resistant	3 = Tolerant	
0	Iron Chlorosis on Calcareous S	oil				
0	Phosphorus					
0	Boron					
0	Aluminum					
0	Salt					
0	Drought					
	Other (Please Specify)		<u> </u>			
D. INSEC	CT REACTIONS	0 = Not Tested	1 = Susceptible	2 = Resistant	3 = Tolerant	·
0	Mexican Bean Beetle (Epilachno	a varivestis Mulsant)			
0	Potato Leaf Hopper (Empoasca	fabae (Harris))		÷		
	Other (Please Specify)					
E. HERB	ICIDE REACTIONS	0 = Not Tested	1 = Susceptible	2 = Resistant		
2	Metribuzin					
0	Bentazone					
2	Sulfonylurea					
1	Glyphosate					
1	Glufosinate					
0	Pendimethalin					-
	Other (Please Specify)					
F. TRANS	GENIC COMPOSITION				·	
Tas the deve	lopment of the Subject Variety inch	ıded the insertion o	r removal of gene	etic material?		
f yes, please	complete the following information	equests*. Use addi	tional nages if no	raccaru,	Yes X N	Vo
	designed by the Plant Variety Parts 1: 000			voogi y.		

F. TRANSGENIC COMPOSITION(Continued)

- 1. Please state the vector's name:
- 2. Please state the vector components:

200000078

- 3. Please describe the genetic material successfully transferred into the Subject Variety:
- 4. Please describe the insertion protocol:
- * A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.

G. BIOCHEMICAL MARKERS

Please describe any biochemical information here which you believe will be helpful in further describing the Subject Variety (e.g. Sim Sequence Repeats, Random Fragment LengthPolymorphisms, Isozymic Characterization). Use additional pages if necessary.

H. COMMENTS



EXHIBIT D

Additional Description of A5404 Soybean

A5404is a mid maturity group V variety. It has superior yields to lines of similar maturity and has excellent agronomic characteristics. In tests, it has beaten Asgrow A5545 by 125 % overall, winning at 8 of 8locations. A5404would be grown in the mid maturity Group V growing areas of the southern corn belt, including Arkansas, Missouri, Mississippi, Kentucky, Tennessee, North Carolina, and North Carolina. It has only average appearance.

EXHIBIT E

Statement of Basis of Applicant Ownership

A5404was originated and developed by Dr. Bruce Luzzi, an Asgrow soybean breeder. By agreement with Asgrow Seed Company LLC, all rights to any invention, discovery or development made by employees are assigned to the company. No rights of such invention, discovery or development are returned to the employee.

U.S. DEPARTMENT OF AGRICUL AGRICULTURAL MARKETING SEF	· -	The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.		
EXHIBIT E STATEMENT OF THE BASIS OF	OWNERSHIP	Application is required in order to de certificate is to be issued (7 U.S.C. 2 until certificate is issued (7 U.S.C. 2426	421). Information is held confidential	
1. NAME OF APPLICANT(S)		2. TEMPORARY DESIGNATION	3. VARIETY NAME	
Asgrow Seed Company LLC		OR EXPERIMENTAL NUMBER MP5404	A5404	
4. ADDRESS (Street and No., or R.F.D. No., City, State	e, and ZIP, and Country)	5. TELEPHONE (include area code)	6. FAX (include area code)	
634 E. Lincoln Way Ames IA 50010		515-232 - 7170 7. PVPO NUMBER	515-232-6905	
		20000	0078	
8. Does the applicant own all rights to the variety?	Mark an "X" in appropr		XX YES NO	
Is the applicant (individual or company) a U.S. If no, give name of country	national or U.S. based co	ompany?	XX YES [NO	
10. Is the applicant the original owner?	YES N	If no, please answer one of the f	ollowing:	
a. If original rights to variety were owned by inc	dividual(s), is (are) the or	iginal owner(s) a U.S. national(s)?		
,	ŢYES □ N	[O If no, give name of country		
b. If original rights to variety were owned by a	company(ies), is(are) the	original owner(s) a U.S. based company	y ?	
	YES N	If no, give name of country		
11. Additional explanation on ownership (if needed	, use reverse for extra sp	pace):		
(5 % ⊈		ti e		
			. :	
PLEASE NOTE:				
Plant variety protection can be afforded only to owners (not licensees) who meet or	ne of the following criteria:	•	
1. If the rights to the variety are owned by the original be which affords similar protection to nationals of the U			er country, or national of a country	
If the rights to the variety are owned by the company member country, or owned by nationals of a country				
3. If the applicant is an owner who is not the original ov	mer, both the original own	er and the applicant must meet one of the al	oove criteria.	

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to compete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

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